DOCUMENT RESUME

ED 386 159 IR 017 284

AUTHOR Baldwin, Beatrice; Sinclair, Anne
TITLE The Status of Technology Usage in Southeastern Louisiana and the Impediments to Technology Usage.
PUB DATE [94]
NOTE 12p.; Paper presented at the Annual Meeting of the Mid-South Educational Research Association (Nashville, TN, November 1994).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Computers; Computer Uses in Education; Educational Media; *Educational Technology; Electronic Equipment; Elementary Secondary Education; *Knowledge Level; Surveys; Teacher Education; *Teachers; *Use Studies
IDENTIFIERS *Access to Computers; *Louisiana (Southeast)

ABSTRACT

A survey of 131 southeast Louisiana educators revealed a significant discrepancy between educators' familiarity with technology and media, and the accessibility of such technology. A questionnaire asked subjects (73% female, and 27% male) to respond to a variety of items indicating familiarity with and accessibility to technology. In addition, respondents were asked to describe major impediments to technology usage, and to indicate what types of assistance would be most helpful in promoting technology use. Overall, respondents consistently reported that their level of technology knowledge exceeded the availability of the technology. For example, although 80% of the subjects reported being somewhat or very familiar with CD-ROM technology, only 51% reported having that type of technology available in their schools. Educators reported that the most serious impediment to technology usage was the lack of hardware (approximately 80%), followed by lack of training and lack of software (approximately 78% each). Respondents also reported that in-service workshops, conferences, and district technology consultants were helpful means of gaining technological knowledge. Three tables illustrate data. (Contains six references.) (Author/MAS)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED 386 159

THE STATUS OF TECHNOLOGY USAGE IN SOUTHEASTERN LOUISIANA AND THE IMPEDIMENTS TO TECHNOLOGY USAGE

Beatrice Baldwin
Southeastern Louisiana University
Center for Educational Services & Research
SLU Box 782
Hammond, LA 70402
504 549-5019
scer1027@selu.edu

Anne Sinclair
Southeastern Louisiana University

BEST COPY AVAILABLE

Paper presented at the annual meeting of the

Mid-South Educational Research Association, Nashville, TN, November 1994

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Beatrice Baldwin

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

IR017284

ABSTRACT

A survey of 131 southeast Louisiana educators revealed a significant and meaningful discrepancy between educators' familiarity with technology and media and the accessibility of such technology. The educators were 73% female, 27% male. Twenty-two percent of the respondents were elementary level educators, 51% were middle/junior high school level, and 27% were secondary level. The respondents reported an average of 14.25 years experience as educators.

The questionnaire asked subjects to respond to a variety of items indicating familiarity with and accessibility to technology. In addition, subjects were asked to describe the major impediments to technology usage and to indicate what types of assistance would be most helpful in promoting technology use.

Overall, respondents consistently reported that their level of technology knowledge exceeded the availability of the technology. For example, although 80% of subjects reported being somewhat or very familiar with CD-ROM technology, only 51% reported having that technology available in their schools.

Educators reported that the most serious impediment to technology usage was the lack of hardware (approximately 80%), followed by the lack of training and lack of software (approximately 78% each). Respondents also reported that in-service workshops, conferences, and district technology consultants were helpful means of gaining technological knowledge.

The Status of Technology Usage in Southeastern Louisiana and the Impediments to Technology Usage

While fields such as business and communications have quickly moved forward with technology acquisition and usage and embraced the promises of the technologically-based information age, observers have noted that schools have been amazingly resistant to the influence of computers and technology (Cohen, 1987). Even though popular news tidbits focus on the technological marvels found in school classrooms, the truth is that most schools have limited available technology, and technology use is still considered a deviation from the normative, more traditional means of instruction and personal productivity. There are a variety of reasons why technology usage may be lagging.

Hosa (1993) suggests that technology has not been easily accepted by school personnel because technology is often viewed as an intrusion which subverts the existing cultural status quo. Technology, Hosa maintains, is not value-free, but is a symbol of modernity, efficiency, change, rationality, informational freedom, and progress that makes some in our culture-bound educational communities uncomfortable. Educators often reject technology in straightforward as well as subconscious ways because they are anxious about their lack of knowledge and skill and because the long-standing notion that machines will prove people to be obsolete still exists (Kerr, 1991).

The lack of support for computer usage is also an important factor. The Center for Children and Technology and the Center for Technology in Education (1993) reported that technologically-literate teachers are largely driven to learn about technology due to personal motivation rather than by school district initiatives. Over 78% of 550 teachers in a survey study reported that they were "personally intrigued" by computers and telecommunications. Less than half (45%) of the teachers surveyed said that they had learned about computers by taking inservice courses, and only 13% said

that they had gained information about telecommunications through inservice opportunities. Thus, although technology usage is often considered to be essential to meaningful school reform for the 21st century, it seems that school districts for the most part are not advocating and supporting a technologically-based agenda. Indeed, as Davis & Henry (1993) and Sheingold (1991) point out, it is often only because the world of work has incorporated technology usage that school districts have reason at all to legitimize technology for teaching and learning.

Practical limitations also affect the extent of technology usage in today's classrooms (Davis & Henry, 1993). School districts face a lack of funds to purchase and upgrade ever-changing software and hardware, to renovate classrooms and buildings to accommodate technology needs, and to provide for the professional development of educators. Time is also a scant resource. Sufficient time is needed for planning technology-based curricula as well as for training if technology integration is to be successful. These critical issues are even more substantial impediments in resource-poor school districts such as those in southeastern Louisiana.

The purpose of this study was to describe the extent of technology usage and the impediments to technology usage in southeastern Louisiana. A group of educators, the majority of whom could be characterized as intermediate to advanced technology users, were surveyed as to their familiarity with various types of technology and the availability and usage of the technologies in their schools and classrooms. In addition, survey participants were asked to identify the obstacles to technology usage and the types of assistance that would be most helpful in selecting, installing, or implementing technology in the classroom.

Methods

Sampling

Educators attending a technology conference at Southeastern Louisiana University in spring 1994 were surveyed. In all, 131 surveys were completed. Seventy-

three percent of the survey participants were female, and the average number of years of educational experience was 14.25 years. Twenty-two percent of the participants were elementary level, 51% were middle/junior high school level, and 27% were secondary level. The survey respondents represented 15 parishes in southeastern Louisiana. Based on the total score of the 18 familiarity items on the survey (highest possible score = 54, lowest possible score = 18), 84% of those surveyed scored at least 27 and could be described as intermediate to advanced technology users.

Instrumentation

The survey asked participants for basic demographic information such as gender, years of experience, parish, position, and grade level. Respondents were then asked to identify their familiarity with and accessibility/usage of 18 different types of technology by circling their responses. These 36 items were Likert-scaled with responses ranging from 1 (indicating "This is not familiar to me" on the Familiarity scale or "This is not available to me" on the Accessibility/Usage scale) to 3 (indicating "This is very familiar to me" or "This is available and I have used it").

A third section of the survey asked respondents to rank seven listed impediments to technology usage by indicating if each of the listed factors was a "Major impediment," "Minor impediment," or "Not an impediment." Respondents were also asked to indicate how helpful each of seven listed types of assistance would be in selecting, installing, or implementing technology on the classroom, school, or district. The possible options ranged from "Very helpful" to "Not helpful."

Results and Conclusions

Familiarity and Accessibility/Usage

Levels of familiarity with different types of technology varied widely. (see Table 1). The proportion of respondents reporting that they were not at all familiar with the technology ranged from 72% for ZAP shot camera to 2% for 35 mm camera.

Table 1
Survey Results -- Familiarity and Accessibility/Usage

Familiarity*			Access & Usage*			
1	2	3	1	2	3	
24	41	34	63	10	26	1. Networked computer stations
35	31	34	65	15	20	2. Dedicated telephone line and modem
43	35	23	69	11	21	3. Internet or electronic bulletin boards
44	30	26	69	16	15	4. On-line databases
40	38	22	67	16	18	5. Telecommunications networks
61	25	14	80	12	8	6. Distance learning
50	25	25	73	7	20	7. LCD panel
5	34	62	26	28	46	8. Video camera
72	19	9	89	5	6	9. ZAP shot camera
2	17	80	14	18	68	10. 35 mm camera
23	41	35	62	18	20	11. Laser disc player
52	33	15	80	9	11	12. Integrations of laser disc with computer
43	33	24	73	10	17	13. Hand-held or flatbed scanner
21	40	39	49	19	32	14. CD ROM
21	33	46	60	12	29	15. CD player with external speaker system
22	35	43	53	19	28	16. Video projector
26	41	34	73	10	17	17. Computer with large screen display
15	47	38	53	26	21	18. Software integrated with curricula/text

KEY:

Familiarity
- 1 = This is not at all familiar to me.
- 2 = This is somewhat familiar to me.
- 3 = This is very familiar to me.

Accessibility & Use
- 1 = This is not available to me.
- 2 = This is available but I do not use it.
- 3 = This is available and I have used it.

*All figures reported in percentages, rounded to the nearest whole number.

Of the 18 listed technologies, eight received familiarity ratings of 2 or 3 by at least 75% of respondents. Of these eight, three might be considered as "low tech" -- video cameras, 35 mm camera, and video projectors. On four of the remaining five (networked computer stations, laser disc player, CD ROM, and integrated software), more respondents indicated that they were somewhat familiar rather than very familiar with these technologies. Only about 25% of the participants considered themselves to be very familiar with Internet or electronic bulletin boards, on-line databases, telecommunications, distance learning, LCD panels, integration of laser disc with computers, and scanners.

Respondents indicated their accessibility to and usage of each of the 18 listed technologies. As would be expected, the lowest proportions of respondents citing availability and use were noted for high tech, expensive technologies such as LCD panels, distance learning, ZAP shot cameras, integration of laser disc with computers, scanners, and computers with large screen display. In the majority of cases, very few respondents selected the option "This is available but I do not use it."

For every technology type, the percentage of respondents citing accessibility and usage of the technologies was lower than the number claiming familiarity. Measures of discrepancy were calculated by comparing the number of respondents citing some familiarity or much familiarity with the number of respondents claiming that the technology was available. The least amount of discrepancy (11% - 23%) was noted for the low tech items such as 35 mm cameras and video cameras and for high tech, "unobtainable" technologies such as ZAP shot cameras, distance learning, and LCD panels. All other technologies had discrepancies of 25% - 48%. The greatest discrepancies were observed for computers with large screen display (48%), networked computer stations (39%), CD players with external speakers (38%), and integrated software (38%).

The greatest impediment to technology integration that was cited by respondents was lack of hardware (see Table 2). Eighty-one percent of those surveyed stated that a lack of hardware was a major or minor impediment. Similarly, 78% cited a lack of software as a problem. Respondents indicated that in spite of their high degree of familiarity with many of the technology types, a lack of training was also a serious impediment to technology integration. Seventy-eight percent of respondents said that lack of training presented an obstacle. Although the proportion of respondents indicating that the lack of support personnel and the lack of released time for training was considerable, only 20% indicated that a lack of interest or commitment by school personnel was a major impediment. Thus, respondents seemed to indicate that lack of local support was primarily a resources issue rather than an advocacy or endorsement issue.

Table 2
Survey Results -- Impediments to Technological Integration

Impediment Rating*			
1	2	3	
64	17	20	**1. Lack of hardware**
51	22	27	**2. Lack of technical support personnel in school/district**
20	32	48	**3. Lack of interest or commitment by school personnel**
49	28	24	**4. Lack of release time to gain competency in technology**
51	27	22	**5. Lack of software**
56	22	21	**6. Lack of training**
25	43	33	**7. Lack of space or facilities**

KEY:
1 = Major impediment
2 = Minor impediment
3 = Not an impediment

***All figures reported in percentages, rounded to the nearest whole number.**

Respondents indicated that most would be eager to avail themselves of any opportunity for assistance (see Table 3). In-service workshops were judged to be the most helpful (94%), followed by district technology consultants (80%), and educational technology conferences (79%). University faculty should note that summer courses and seminars were more widely favored than technology courses offered during the fall and spring semesters. Universities could also provide beneficial assistance by sponsoring educational conferences which provide training and showcase advancements in technology and by creating/sponsoring local use groups. Many universities could provide bulletin board services and gateways to Internet to local users by permitting school systems to access their mainframes through local dial-up numbers.

Advanced technology users (those with a total familiarity score of 45 or greater) had slightly different responses to what would be the most helpful types of technology assistance. They more highly rated fall/spring university courses (77% said very helpful), summer university courses (77%), mentoring (82%), and user groups (88%). Their reactions to technology consultants (81%) and educational conferences (77%) were about the same as the general group. They rated in-service district training lower (88%). These ratings would appear to indicate that some advanced users seek skills and knowledge training above what districts can offer and are more likely to seek out aid from universities and knowledgeable peers. This would be important for school districts to recognize if they seek to utilize their most advanced technology users as mentors and/or teacher leaders.

Table 3
Survey Results -- Helpfulness of Technology Assistance

Helpfulness Rating* 1	2	3	
5	41	54	1. Fall/spring courses in technology at the university
2	27	71	2. Summer courses/seminars in technology at the university
3	4	94	3. In-service workshops for training in the use of technology
3	17	80	4. Technology consultant available in school district
4	21	76	5. Teacher mentoring in school district
6	24	70	6. Local user group
2	20	79	7. Educational technology conferences

KEY:
1 = Not helpful
2 = Somewhat helpful
3 = Very helpful

*All figures reported in percentages, rounded to the nearest whole number.

In general, it would seem that technological advancement in schools suffers primarily from lack of resources. The limited amount of technological hardware and software coupled with limited resources and released time for training appear to be the most salient factors. Although the survey respondents indicated that lack of training was a primary obstacle, it appears that even the most advanced users feel a need for continuing education. This may be due to the fact that technology is changing so rapidly, and technology users feel some frustration when confronted by information overload.

References

Center for Children and Technology & Center for Children and Technology. (1993). Telecommunications and teachers: Preliminary findings from a national survey (Contract No. 1-135562167-A1). New York: Bank Street College of Education. (ERIC Document Reproduction Service No. ED 364 250)

Cohen, D. K. (1987). Educational technology, policy, and practice. Educational Evaluation and Policy Analysis, 9, 153-170.

Davis, M., & Henry, M. J. (1993, January). Technology implementation in two restructuring schools: Past, present, and future. Paper presented at the meeting of the Association for Educational Communications and Technology, New Orleans, LA. (ERIC Document Reproduction Service No. ED 362 162)

Hodas, S. (1993). Technology refusal and the organizational culture of schools. Unpublished manuscript, HHLL, Seattle, WA. (ERIC Document Reproduction Service No. ED 366 328)

Kerr, S. T. (1991). Lever and fulcrum: Educational technology in teachers' thought and practice. Teachers College Record, 93, 114-136.

Sheingold, K. (1991). Restructuring for learning with technology: The potential for synergy. Phi Delta Kappan, 73(1), 17-27.